1845.	Madras Mean Time.	Right Ascension.	North Polar Distance.	1845.	Madras Mean Time.	Right Ascension.	North Polar Distance.
Jan.	h m s	h m s	° ′ ″	Feb.	h m s	h m s	° ′ ″
18	6 40 47	0 27 3	128 56 38	14	7 3 25	2 47 14	108 53 56
19	6 43 27	35 24	128 8 56	15	7 7 11	50 18	108 21 56
21	7 17 20	51 12	126 30 56	16	6 57 23	53 7	107 45 56
22	6 56 17	58 50	125 46 43	17	7 6 52	56 10	107 12 56
23	6 40 36	1 5 54	124 53 44	18	7 3 9	59 5	106 36 56
24	6 40 49	12 28	124 2 44	19	7 6 11	3 1 56	106 5 0
25	7 12 16	18 55	123 9 44	20	7 0 1	4 29	105 34 56
26	6 46 5	25 2	122 22 44	21	7 1 8	7 18	105 2 30
27	6 59 42	30 57	121 33 43	23	7 8 40	12 15	104 7 56
28	7 15 38	36 51	120 46 22	24	7 6 35	14 44	103 38 56
29	6 58 1	42 10	119 58 31	25	7 22 37	17 23	103 12 30
30	6 50 47	47 21	119 9 55	26	7 9 39	19 37	102 44 4
31	7 3 3	52 18	118 21 55	27	7 16 4	22 3	102 19 4
Feb. 1	6 53 43	57 16	117 34 55	28	7 11 57	24 19	101 53 4
Mar. 3	6 57 46	2 6 21	116 2 55	1	7 11 55	26 44	101 27 4
4	6 56 22	10 53	115 26 56	2	7 13 6	28 49	101 1 4
5	6 55 41	15 13	114 44 56	3	7 7 47	31 3	100 37 4
6	6 53 9	19 1	114 1 56	4	7 10 23	33 7	100 14 4
7	7 0 19	23 4	113 21 56	5	7 26 9	35 24	99 52 4
8	6 55 26	26 51	112 39 56	6	7 11 27	37 23	99 29 4
9	6 54 1	30 28	111 59 26	7	7 20 8	39 7	99 5 4
10	6 59 26	33 52	111 24 26	8	7 43 8	41 47	98 46 4
11	7 2 6	37 21	110 47 56	9	7 23 13	43 27	98 25 4
12	7 1 44	40 48	110 10 56	10	7 32 15	45 43	98 2 4
13	6 57 4	44 2	109 30 56	11	7 3 15	47 29	97 43 4

VII. Observations of Colla's Comet.

1. Observations made at Padua by Professor Santini, extracted from a communication to G. B. Airy, Esq. dated 1845, July 23.

"I send to you a few observations which I have been able to make of the comet recently discovered by Professor Colla, at Parma, on the 2d of June, which was rendered interesting by its brightness, and which I was able on this account to observe with the small equatoreal instrument belonging to this Observatory. From the observations of June 14, 20, and 27 I have deduced (from a simple first approximation, using the method of Olbers,) the following para-

bolic elements, in which the longitude of the perihelion and the inclination are deduced on the supposition of a direct motion :—

Perihelion Passage, 1845, June 3·69520, Berlin Mean Time.

Log. Perihelion distance ..... 9·602870.

	°	′	″
Longitude of Perihelion.....	53	39	53
Longitude of Node.....	337	53	20
Inclination	139	51	38·5.

" If the usual rules for retrogradé motion be applied, the longitude of the perihelion will be 262° 6′ 47″
and the inclination..... 49 8 21·5

" From the preceding elements are deduced the following formulæ for the computation of the heliocentric co-ordinates referred to the equator, following the rules of direct motion :—

$$x \cos^2 \tfrac{1}{2} v = [9{\cdot}584519] \sin (v + 180^\circ\ 39'\ 39''{\cdot}2)$$
$$y \cos^2 \tfrac{1}{2} v = [9{\cdot}568553] \sin (v + 277\ 43\ 8{\cdot}4)$$
$$z \cos^2 \tfrac{1}{2} v = [9{\cdot}281101] \sin (v + 57\ 27\ 19{\cdot}4).$$

" The following table contains the observed places and the corrections of the preceding elements calculated for every separate day from the preceding formulæ :—

Month and Day, 1845.	Mean Time at Padua.	Observed Right Ascension of Comet.	Corr. of Elements.	Observed Declination of Comet.	Corr. of Elements.	No. of Obs.	Stars of Comparison.
June.	h m s	° ′ ″	″	° ′ ″	″		
14	10 13 1	106 36 52	— 1	+ 42 5 24	0	2	Piaz. vii. 70 & 87.
16	9 36 48	112 41 56	+ 10	39 45 39	— 57	2	Piaz. vii. 70.
17	9 10 2	115 13 36	+ 17	38 34 24	— 31	2	Bessel's zones, 493.
20	9 34 9	121 22 51	+ 49	34 57 56	— 25	2	Piaz. viii. 87 & 211.
22	9 33 12	124 25 2	+ 6	32 43 45	— 37	3	Rümker, 2527.
24	9 58 30	126 54 32	+ 15	30 38 44	+ 2	1	A. S. C. 1069.
25	9 10 30	127 57 30	+ 63	29 41 1	— 77	2	A. S. C. 1087.
26	9 42 51	128 55 38	+ 10	28 44 57	— 6	1	A. S. C. 1087.
27	9 16 45	129 47 43	+ 12	27 52 30	— 9	2	A. S. C. 1087.

2. Observations made at Breslau, by M. Boguslawski with the differential micrometer invented by him.

The observed places of the comet are reduced to 11^h Breslau mean solar time :—

	h	m	s		°	′	″
1845, June 10, observed R.A. =	5	58	27·72	decl. = +	45	16	31·8
,, ,, =	5	58	27·70	,,	45	16	22·3
,, 12 ,, =	6	36	7·34	,,	44	2	20·3

From the above observations, and one made at Berlin on June 7, M. Schubert has calculated the following parabolic elements :—

Perihelion passage, 1845, June 5·384.

Log. least dist.	9·5980	
Longitude of perihelion....	265° 10′·5	from Apparent
Longitude of ascending node	341 13·3	Equinox of June 10.
Inclination	50 9·0	

Motion retrograde.

3. Observations made at Hamburg with the meridian circle, by C. Rumker, Esq. Communicated by Dr. Lee.

1845.	Mean Time Hamburg.	Right Ascension of Comet.	Declination of Comet.
	h m s	° ′ ″	° ′ ″
June 9	12 26 44·7	84 52 57·0	+45 28 10·2
10	12 43 33·7	90 5 1·5	45 14 42·4
11	12 59 3·9	94 57 21·8	44 43 4·8
12	13 13 0·1	99 26 7·3	43 56 54·0
13	13 25 13·5	103 29 6·8	42 59 44·5
15	13 44 41·7	110 20 14·6	+40 44 56·9

Mr. Funk has thence computed the following elements of the comet :—

Perihelion passage, 1845, June 5·68179, Greenwich Mean Time.

Perihelion	262° 4′ 39″	from apparent
Longitude of ascending node	337 51 56	Equinox, June 9.
Inclination	48 57 31	
Log. perihelion distance ..	9·603033	

Motion retrograde.

VIII. Observations of Halley's Comet made in the year 1835, at Hamburg. By C. Rumker, Esq. Communicated by Dr. Lee.

These observations extend from 1835, August 28, to November 2 : they have been carefully reduced, the places of all the stars with which the comet was compared having been previously ascertained with the meridian circle.

IX. Observations of *Mars* at his opposition in 1841. By C. Rumker, Esq. Communicated by Dr. Lee.